

Global Financial Crisis, MDGs and Choices for Pakistan's Inclusive Development¹

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Abstract

In this paper, we use a CGE – microsimulation model to show the impact of the global economic crisis on Pakistan economy. Our results estimate that between 2007 and 2009, poverty increased by almost 40 percent. However this is also attributable to the fuel and food crises that preceded the financial crisis. More recently Pakistan witnessed a sharp reduction in external resource inflow on account of the global recession, among other reasons. This led to a sharp depreciation in the value of domestic currency, a decline in investment, falling wages for skilled workers, and a general rise in consumer prices. At the micro level, we estimate that this resulted in a 4 percent increase in poverty with food consumption declining by 1.2 percent. The cut in federal development pro-poor expenditure further threatens the progress made towards achievement of MDGs.

I. Introduction

The global financial crisis has impacted the developing economies through trade, aid, remittances and investment channels. The precise magnitude of effect across countries differed, depending upon their level of integration with the world economy. As the crisis deepened national governments came forward with home grown fiscal bail out strategies in order to protect some level of economic activity in turn minimizing job losses and protecting the vulnerable segment of population.

The crisis was preceded by a booming growth period for developing economies who had made impressive gains towards the achievement of MDGs. The emerging markets absorbed the concept of inclusive development and tried to incorporate pro-poor policies at the institutional level. While the private sector remained the engine of growth globally, it was the public sector whose intervention particularly in the developing economies that led to gains in education, health and related aspects of population welfare. The integration of smaller economies in global trade and finance also led to wealth and spillover effects. The former is particularly seen in rising remittances from abroad.

How was this crisis different from economic turbulences seen in recent past? The Asian crisis was characterized by a decline in domestic demand, credit crunch, rise in input costs due to currency depreciation, and increase in interest rates. The 2008 financial crisis again witnessed a credit crunch and declining domestic demand but this time combined with falling global demand, currency appreciation, and lower interest rates. While the Asian crisis started from the emerging markets, the global financial crisis was triggered by the collapse of the financial sector in developed economies.

In the wake of the crisis the medium term strategies that national governments in developing countries implemented were in fact three pronged. The first phase was to focus on macroeconomic stabilization which was all the more important given that several countries were running unprecedented trade and fiscal deficits due to rising import bill attributable in turn to a sharp increase in fuel and food prices.

The second phase then focused on recovery from crisis – where the world witnessed the governments favouring an increase in credit to private sector, loosening of monetary policy and bringing investor friendly tax regimes. These reforms were complemented in developing countries with a restructuring and regulation of the financial sector which also had presence in the developing economies. The realization grew that in order to protect the purity of the free market system – regulatory framework must evolve with the markets.

In the third phase (yet to be seen) it is planned that stabilization and recovery should then be followed by growth restoration policies in order to bring the developing economies back to the pre-crisis growth trajectory. Traditionally the neo-classical growth model has been suggested where foreign savings play an instrumental role in putting the developing countries on the high growth path – also illustrated in the convergence phenomenon. However with the global financial crunch this option has been slow to materialize for many economies. The alternative is the domestic demand, which may be possible in economies with large population and a rising middle class

in income terms. An example of this may be China. However domestic demand may not be possible for many developing economies who are themselves facing a domestic credit crunch.

It was under this milieu that a small open economy like Pakistan found itself trapped in the low growth equilibrium and resorted to a growth-curbing option i.e. IMF stand-by arrangement in order to rescue the balance of payments. Pakistan economy which had otherwise remained in the league of countries with leading economic growth rates since 2000 (see Table 1) found itself struggling to keep the growth rate from turning negative by end 2009. With severe macroeconomic imbalances and infrastructure shortages⁶ (that led to more than 7 percent decline in the industrial sector's growth in 2009) the government embarked upon a medium term strategy focusing on reduction in twin deficits, protecting exports, reforms in energy sector, tax administration reforms (in order to increase domestic resource mobilization), vigilant monetary policy and social protection for the poor⁷.

This paper estimates the magnitude of effects of global financial crisis on Pakistan economy and its pursuit for the achievement of MDGs. The next section will focus on a brief literature review that links financial crisis with poverty and welfare. In section 3 we explain our methodology followed by a description of macro – micro data. The next two sections then explain the design of our simulations and results. Finally we conclude with policy recommendations.

II. Crisis and Poverty

There have been several attempts to trace the impacts of external shocks such as a global financial crisis on national poverty profiles. Robilliard *et al.* (2001) using a CGE model simulated the impact of Indonesia's financial crisis of 1997 through real devaluation, foreign and domestic credit crunch. The results indicate a decline in the wages for skilled and unskilled labour. Poverty and Inequality rose by 93 and 5.5 percent respectively. Similarly for Indonesia, Bourguignon *et al.* (2003) show that a decrease in foreign savings under savings-driven investment and flexible government spending leads to a decline in skilled and unskilled wages of around 11 and 25 percent respectively. Poverty and inequality also deteriorate by 37 and 2 percent respectively. For Indonesia also see Friedman and Levinsohn (2001).

Block *et al.* (2004) explained for the Indonesian crisis that despite a rise in food prices which significantly altered the nutrition profile, the child weight-for-age remained constant throughout the crisis. This was primarily because within the households, children's caloric intake was buffered by mothers which in turn resulted in increased maternal wasting. Bhutta *et al.* (2008) also show food and economic crisis leading to significant deterioration of health and nutrition among mothers and children in poor communities in the short term. See also Chapman-Novakofski 2009, Chen and Ravallion (2009), Ferreira and Schady (2008), Friedman and Schady (2009).

⁶ Electricity and gas shortages faced by both households and industrial sector.

⁷ This included the Benazir Income Support Programme. Increased donor support was also sought for meeting development objectives in the terror-stricken areas.

Such a scenario makes the transition towards the achievement of MGDs more difficult. It has been discussed in Haddad *et al.* (2003) that income growth alone will not be sufficient to halve the prevalence of underweight children by 2015 and investments in direct interventions will be required (See also Alderman *et al.* 2006). Martin-Prével *et al.* (2000) while discussing the effects of the 1994 devaluation of the African Financial Community (CFA) franc on the nutritional status of the populations in two districts of Brazzaville, Congo show deterioration in nutritional status with greater levels of stunting and wasting among children, mothers with lower body mass index, and infants with reduced birth weights.

Remittances from abroad have worked as a buffer during difficult times domestically. Martin (2009) explains that remittances should be less sensitive to recession than deployments. This is because remittances to developing countries depend more on the stock of migrants abroad than the flow. During and following the crisis, new deployments of migrants are likely to slow down. Under a prolonged crisis increased lay offs can ultimately decrease remittances and reverse migration. See Abella and Ducanes (2009) for the effect of crisis on Asian migrant workers, and Wilson (2009) for crisis leading to declining remittances in Mexico.

Appropriate policy response in times of crisis can play a very important role in saving the lives of the poorest. Lokshin and Ravallion (2002) studied the welfare impacts of the 1998 financial crisis in Russia and the response of the public safety net. The response of safety net fell short of what was needed to preserve living standards particularly for the poor. The targeting of safety net is instrumental in the success of these programmes, however authors indicate that even without better targeting, an increase in cash benefits would have avoided higher income poverty. The role of safety net programmes has also been discussed in Ravallion (2009) and Suci (2006). See also Lin (2009).

III. Methodology

In the past literature the impact of crises has been studied using various quantitative techniques. For CGE approach see (Robilliard *et al.* 2001, Bourguignon *et al.* 2003). For macroeconometric methods see (Weeks 2009). The CGE models have extensively been used to study the impact of price shocks, supply constraints and economic crises. See Yeldan (1998) on structural source of the 1994 Turkish crisis, Robilliard *et al.* (2001) and Bourguignon *et al.* (2003) on the impact of Indonesia's financial crisis of 1997, Valenzuela (2007) on assessing global CGE model validity using agricultural price volatility, Storm (1999) on using variable trade levies on agricultural trade to stabilize food grain prices in India in response to exogenous shocks, Nogue and Woden (2008) on the impact of rising rice prices in Mali, and Ahmed *et al.* (2010) on the impact of possible changes in remittance levels under a prolonged global financial crisis.

CGE Model

The CGE Model used in this paper follows Decaluwé *et al.* (2009) which is a static CGE model⁸. Firms are assumed to operate in a perfectly competitive environment and in each industry firms maximize profits subject to the underlying technology. A nested production structure is specified where the elasticity of substitution is greater at lower levels of the hierarchy. The sector output (at the top of the nest) combines value added and total intermediate consumption in fixed shares. At the second stage, using a Cobb-Douglas function, value added of each industry embodies composite labour and capital. These two factors of production are employed until the point where their value of marginal product is equal to their price. At the bottom, composite labour and capital are CES combinations of different categories of labour and capital respectively. The demand for each type of factor results from cost minimization. It is assumed that intermediate inputs are perfectly complementary and are combined following a Leontief production function where no substitution is not possible.

The household incomes are a combination of income from labour, capital and transfers. Total labour and capital income is distributed in fixed proportions between all economic agents. Disposable income of the household is obtained after subtracting direct taxes and transfers. Household savings are a linear function of disposable income. Enterprise income consists of its share of capital income, and transfers received from other agents. After subtracting corporate taxes the disposable income of each type of enterprise is obtained. Enterprise savings are the residual that remains after subtracting transfers to other agents from disposable income.

Government income is derived in the form of direct tax receipts from households and enterprises plus indirect taxes on production and consumption, and taxes on international trade. Income taxes in the model are a linear function of total income. The taxes on factors of production are distinguished according to the tax rates levied in different industries. The current government budget balance is the difference between revenues and expenditures. The rest of the world receives payments for value of imports, some portion of income from capital, and transfers from domestic agents. Foreign spending in turn is represented by value of exports, and transfers to domestic agents. The difference between foreign receipts and spending is foreign savings.

On the demand side it is assumed that households have Stone-Geary utility functions specified as a linear expenditure system. This offers a degree of flexibility with respect to substitution possibilities in response to relative price changes. Investment demand is sum of gross fixed capital formation and changes in stock. The total investment expenditure is distributed among commodities in fixed shares. Margin rates are applied to the value of domestic production and imports to generate the quantities of transport, retail and wholesale trade (margin services⁹).

On the international trade front, small – country hypothesis is adopted i.e. the world price of traded goods is exogenous. The imperfect substitutability on the export side is specified using constant elasticity of transformation (CET). The commodities supplied to the domestic market may also be a combination of locally produced and imported goods, and this imperfect substitutability is captured by constant elasticity of substitution (CES).

⁸ This section draws from the model documentation of PEP 1-1 model. See Decaluwe *et al.* (2009) for details.

⁹ Services required to distribute commodities to buyers.

The unit cost of an industry's output is a weighted sum of the prices of value added and aggregate intermediate consumption. The price of latter is a combination of the commodity prices of the industry's intermediate inputs. The price of value added is a combination of the prices of composite labour and composite capital. Similar treatment is retained with the prices of composite factors.

In the agricultural sector, capital and land are assumed to be fixed and in non-agriculture sector only capital is fixed. Unskilled non-farm labour is fully mobile between sectors, whereas unskilled farm labour is only used in agriculture and skilled labour is only used in non-agricultural sectors, where they are also fully mobile. Supply of land is fixed and sector-specific. Total investment is fixed and equal to total savings, which is comprised of household, firm, foreign and government savings. Real government expenditure is held fixed and the public deficit is flexible. The nominal exchange rate is kept flexible, which implies that foreign savings, which are fixed in nominal terms, are flexible in domestic currency terms. Thus the external account is cleared by the nominal exchange rate.

Microsimulation Model

Following Alatas and Bourguignon (2000) we estimate the wage income as a function of personal characteristics of earning members of the households thus allowing for heterogeneity of earnings within the wage groups. We retain the same wage grouping as explained above in the CGE model. The heterogeneity may be due to differences in for example educational profile, area of residence and experience. For mathematical details see Ahmed *et al.* 2010.

The self employment income of the households is estimated as a function of household members associated with the business activity as well as the household characteristics such as region, type of experience, size of land ownership, and schooling of head of households. Using an accounting identity we sum the wage income of households members, earnings of members involved in self employment and the non-labour income of household which in Pakistan's case may include remittances, Zakat¹⁰, and miscellaneous. Any direct taxes paid by the household may be deducted. In order to obtain the real household income we deflate the amount with a household specific consumer price index. This index is calculated as the sum of all budget shares multiplied by the price of goods.

The occupational choice available with an individual is then determined in a discrete fashion (using a multi-logit model). The value for inactivity is set to zero and the values for wage or self employment are functions of household characteristics. The individual will choose for example self employment if the value associated with this choice is greater than other alternatives.

The total expenditure is obtained by subtracting household savings from total nominal income. This expenditure multiplied by the observed budget shares gives us the monetary value of commodity-wise consumption. For the calculation of caloric intake it is essential to divide the value of consumption of food items with their unit

¹⁰ An obligatory contribution which every wealthy Muslim is required to pay to the state, or to distribute amongst the poor.

consumer prices to get the quantity of each item¹¹. Finally we divide these total quantities with the number of households to get the per capita quantity consumed for each food item.

From the quantitative aspect three main approaches for linking CGE and microsimulation models can be identified in the literature namely: a) Integrating real households from micro data into a CGE model (see Cockburn 2005), b) sequential (top-down) linkage (see Bourguignon *et al.* 2003), and c) iterative (top-down / bottom-up) approach (see Savard 2003). In this paper we use the top-down approach for linking the macro-micro models. For transmitting incomes from macro to micro model, we changed the wage intercept terms for labour in four different categories: skilled, unskilled – farm labour, unskilled – workers in industry, unskilled – workers in margin services, and self employed¹².

IV. Data

Macro Data

The Social Accounting Matrix (SAM) for our CGE model has been derived from Dorosh *et al.* (2004). On the activities side the matrix includes payments and receipts for 34 sectors of the economy which includes: 12 agriculture, 16 industrial and 6 services sectors. Similar sectoral detail follows in the commodity accounts. Factor accounts include labour, land and capital with labour disaggregated into 10 different categories. This disaggregation is based on the criterion of farm size, agriculture and non-agriculture wage, unskilled and skilled labour. Land again is disaggregated according to the farm size (in different provinces). Capital is categorised into livestock, other agriculture, informal and formal capital. The household accounts are distributed into rural and urban with rural households being further classified into 17 categories based on; farm size, rural poor and rural non-poor. Urban households have been classified into poor and non poor. Other institutions in the SAM include enterprises, government and the rest of the world.

The SAM data indicates that 6 percent of overall household incomes are derived from land, 39 percent from labour activity, 9 percent from agriculture capital, 21 percent from informal capital, 6 percent from transfers and 19 percent from other activities. A further disaggregation of labour income reveals that agricultural labour force contributes around 2 percent while the rest 37 percent comes from non-agricultural labour. The annual per capita income for 2002 stands at Rs 23900 (USD 389) with rural at Rs 15000 (USD 244) and urban population earning Rs. 46200 (USD 752). On the production side around 23 percent of value addition is contributed by agriculture sector, 20 percent from industry and 57 percent from services sector. The agriculture sector contributes 4 percent to total exports with industry's share at 79 percent and services sector at 17.5 percent. The imports are dominated by industrial goods and the

¹¹ Alatas and Bourguignon (2000) did not focus on the nutritional aspects.

¹² The process of transmitting wages, prices and employment is done after ensuring data consistency between macro and micro data.

share of industry in overall imports is around 92 percent followed by 4.9 percent for services sector and 3 percent for agriculture.

Micro Data

The main data source for the microsimulation model is HIES 2002. A total of 16400 households were interviewed in this survey. The sample of household was drawn from 1150 primary sampling units out of which 500 are urban and 650 are rural¹³. According to the observed data the national average household size is 6.96 members with rural size at 7.0 and urban at 6.87. According to the provincial disaggregation the household size is highest in Baluchistan (7.37) and lowest in Punjab (6.54). The average number of earners per households is 2.13 with urban 1.96 and rural 2.21. The distribution of earners by employment status reveals that 41.1 percent are paid employees, 26.75 percent are self employed, 1 percent is employers, 28.3 percent are unpaid helpers¹⁴ and 3 percent are economically inactive.

The average monthly income for 2002 is around Rs 7168 per month, with the quintiles 1 and 5 earning Rs 4391 and 11360 respectively. The incomes falling under self employment accounts for the major portion (41.3%) followed by wages and salaries (33.5%). The average monthly consumption expenditure per household is Rs 6714 where urban is Rs 8997 and rural is Rs. 5766. The consumption share of food group is highest (48.3 %) followed by housing (13.2 %) fuel (7.9 %) apparel, textile and footwear (6.6 %) transport and communication (3.9%) and education (3.62%). Amongst the major food items the monthly expenditure on milk is highest (16 %) followed by wheat (15.8 %) vegetable (7.5 %) and sugar (6.7 %).

V. Simulations

In what follows we analyze the impact of the crisis in a two-pronged manner. First, we simulate the poverty effect of observed changes in wage rates, self-employment and consumer prices between 2007 and 2009. However, these changes are not necessarily only attributable to financial crisis, as other factors may have come into play such as the rise in fuel and food prices preceding the crisis. Second, we use our combined CGE and microsimulation models to simulate the macro-micro impact of a 25 percent decline in external resource inflows (foreign savings). This reflects what has been observed during the financial crisis, leading to a depreciation of the Pakistani

¹³ After some data cleaning we randomly selected a sample of 15000 households for the microsimulation exercises.

¹⁴ Unpaid family helper is a member of the family who works for the family enterprise without being paid in monetary terms. Although they are not paid, their efforts result in an increase in the household income; therefore they are considered employed persons.

Rupee by almost 28 percent¹⁵. Third, we see the impact of cut in pro-poor expenditures in the wake of fiscal constraints being faced by the federal government. We summarize our simulations below:

- HISTSIM: Historical Simulation (simulating actual changes in wages and prices in the micro model)
- SAVSIM: Depreciation and decline in foreign assistance with no fiscal response (25 percent decline in foreign savings)
- MDGSIM: Simulating impact of financial crunch on MDGs (transmitting actual changes in public sector development expenditure in social sectors in the CGE model)

VI. Results

We distribute our results for the purpose of explaining the transmission mechanism more transparently into: a) welfare impact of historical changes in wages and prices, b) macroeconomic impact fall in external resource inflow, and c) impact of cut in pro-poor expenditure.

Historical simulations: welfare impact of fuel, food and financial crises

The historical changes in prices and wages during 2007 and 2009 are given in Table 2. Establishing the correct levels of these changes is important in order to get reliable estimates of decline in welfare during the crises period. While the data on prices was readily available on a fairly disaggregate level, it was difficult to obtain the estimates for changes in wages given the non availability of a recent labour force survey. We establish the changes in wages based on three focal group surveys that were conducted for related assignments during this period¹⁶. One should also consider that apart from the food and financial crisis, this period also witnessed the rise and fall of oil prices, which happens to be a major input in the industrial sector's production process.

The prices of processed food increased more than the non-processed food. However wheat inflation was an exception which increased manifolds during this period on account of local and external supply shortages and global price boom. Overall food and core inflation is sensitive to changes in the price of wheat given that it occupies around 16 percent share in the household consumption expenditure. This share increases to 25 percent for the poorest quintile, thus explaining its impact on welfare. The role of increase in unit price of imported cereals also played a detrimental role. The rise in the value of imports of grains, pulses and flours was 274 percent between 2007 and 2008. This value further increased by 69 percent between 2008 and 2009. Such sharp increase was also seen in import value of edible oils.

¹⁵ Actual trends may be seen in: a) Economic Survey of Pakistan, b) State Bank of Pakistan Annual Report, and c) Planning Commission Annual Plan 2009-10.

¹⁶ The first survey was conducted at the firm level for a WIPO project aimed at estimating the economic contribution of copyright sector in Pakistan. The second survey was part of the exercises conducted for assessing the cost of war on terror in Pakistan. The third survey was aimed at exporting and importing entities as part of the evaluation of Pakistan – Sri Lanka free trade agreement.

The fuel prices increased during the same period by over 70 percent. The share of fuel and lighting in the consumption expenditure was around 8 percent. Due to the domestic supply constraints in the energy sector, Pakistan could not insulate itself from the rising oil prices abroad. As the cost of financing subsidies rose and foreign exchange reserves fell to abysmally low levels, the government was forced to transfer the full burden to rising oil prices to the consumers. In 2008 the import of oil stood at \$ 11 billion. This was 163 percent higher than the past year. The share of oil in overall imports was 29 percent.

As a result of fuel, food and global financial crisis we see during this period a decline in real returns for the factors of production. We show here the impact on skilled, unskilled (in farm, industry and services sectors) and self employed, all of whom faced a decline during this period. Given the contraction in demand locally and externally, the self employed were the worst hit with an average decline in real returns of around 11 percent, followed by the skilled labour, which is employed in relatively greater intensity for sectors hit by global recession.

The above mentioned changes once transmitted to the micro model, indicate an increase in poverty by almost 39.6 percent. The Economic Survey 2007-08 reported poverty headcount at 22.3 percent which implies that total number of people below the poverty line was around 36.2 million¹⁷. This number now increases to 50.5 million once we account for the 39.6 percent increase in poverty rate mentioned above¹⁸. The poverty gap and severity also increased by 26.8 and 19.4 percent respectively (Table 3). The overall decline in per capita caloric in-take is around -9.3 percent with the urban households facing a higher magnitude of decline. The per capita per day caloric intake was 2349 calories in 2007. With a 9.3 percent decline, this will now be around 2130 calories.

Our priori expectations from the historical simulation can be verified now with some level of certainty given the recent statistics on post-crises indicators. The rising commodity prices, and falling real wages led to sharp increase in poverty and deterioration of nutritional status. The economic crises dampened the business activity with large scale manufacturing sector registering a negative monthly growth rate for consecutive 17 months since the start of 2009. Similarly the hike in import price of industrial inputs, many of which in fact are required to sustain the growth in Pakistan's exports depressed the overall growth of the economy.

Fall in external resource inflow

In the second analysis, using the macro-micro framework, we see that the decline in external resources have reduced real investment by 1.2 percent (Table 4). Imports decrease on account of the currency depreciation and there is some increase seen in exports, which become relatively more competitive. Textile exports increase by 5 percent. This is of particular importance as textiles constitute around 60 percent of Pakistani exports and an important source of employment. Wages increase for farm workers¹⁹, remain unchanged for unskilled non-farm workers, rise marginally in the

¹⁷ Total population in 2007-08 was 162.37 million.

¹⁸ The poverty line in the 2005-06 household survey was set at Rs. 944.

¹⁹ Shown separately from other unskilled workers.

case of the self employed and decline for skilled labour²⁰. A general increase in consumer prices is observed (Table 5) as a result of the depreciation of rupee and the rising food and fuel import bill²¹. As a result, food consumption falls by 1.2 percent. The poverty headcount ratio (Table 6) increases by almost 4 percent, with the poverty gap and severity increasing by 1.5 and 1 percent, respectively.

The impact of fall in foreign inflows on disaggregated food consumption is shown in Table 7 and Table 8 and reveals adjustments in consumption patterns in response to changes in relative prices and falling incomes. The consumption of cereals and pulses increases, which are staples, while that of meat, fish, sugar products, vegetables and processed food, (which are also imported) decreases. This substitution away from non-essential food items toward staples is a common coping strategy to preserve caloric intake. The change in food consumption seems regressive as the poorest quartile's consumption declined the most (-1.4 percent) where as the consumption of the riches quartile declined by under 1 percent.

Impact on pro-poor expenditures and MDGs

A 28 percent cut in federal public sector development programme (Table 9) contributed by reduction in health expenditure (26.4 percent), education expenditure (33.6 percent), and social welfare (30 percent) lead to a decline in GDP (3.4 percent), investment (3.1 percent) and household income (4.5 percent). As the unskilled and skilled wages decline the poverty headcount ratio increases by almost 3 percent. What is particularly concerning in the context of MDGs is that infant mortality (the number of infant deaths (one year of age or younger) per 1000 live birth) increases to 72.9 which is an increase of almost 4 percent over the past year. Given the reduction in incomes one can also expect the nutritional profile to fall as the overall food imports decline by 6 percent.

VII. Conclusion

In this paper, we have tried to show the impact of the global economic crisis on Pakistan economy. Our results estimate that between 2007 and 2009, poverty increased by almost 40 percent. However this is also attributable to the fuel and food crisis that preceded the financial crisis. More recently Pakistan witnessed a sharp reduction in external resource inflow on account of the global recession, among other reasons. This led to a sharp depreciation in the value of domestic currency, a decline in investment, falling wages for skilled workers, and a general rise in consumer prices. At the micro level, we estimate that this resulted in a 4 percent increase in poverty with food consumption declining by 1.2 percent. The cut in federal development pro-poor expenditure further threatens the progress made towards achievement of MDGs.

Dealing with the crisis is difficult for Pakistan due to fiscal constraints. Balance of payments weaknesses forced the country to resort to an IMF stand-by arrangement, which imposed further conditionalities on the budget. Subsidies on wheat, electricity,

²⁰ The increase in textile and particularly cotton based textile exports are also partly responsible for increased returns to farm workers and also helped the change in returns to unskilled workers from turning negative.

²¹ In the overall imports, food and fuel imports have 7 and 23 percent share respectively.

fertilizer and oil had to be phased out, which in turn increased the inflationary burden on the consumer. While there are some social safety nets at the federal and provincial level, access to these has generally become more difficult. Reforms to better target social safety nets and rescue the progress already made in the context of MDGs, are still underway.

VIII. Tables and Figures

Table 1 Pakistan - Macroeconomic Situation 1999 - 2009

Indicators	2001	2005	2006	2007	2009*
GDP growth (%)	2.0	9.0	5.8	6.8	2.0
Exports (US \$ billion)	9.2	14.4	16.4	16.9	17.8
Imports (US \$ billion)	10.7	20.6	28.6	30.5	34.8
FDI (US \$ billion)		1.5	3.5	5.1	3.7
Remittances (US \$ billion)		4.2	4.6	5.5	7.8
External debt and liabilities (US \$ billion)		35.4	37.2	40.3	52.8
Poverty headcount ratio	34.5	23.9	22.3		35 – 40
Poverty related expenditure (US \$ billion)		5.3	6.3	7.0	3.8
Exchange Rate	58.4	59.4	59.9	60.6	78.0

*provisional estimates

Source: Economic Survey of Pakistan, State Bank of Pakistan - Annual Report

Table 2 HISTSIM: Historical Change in Prices and Wages 2007 - 2009

% Change in Consumer Prices	
Milk	34.7
Meat	15.3
Fruits	19.6
Vegetables	18.6
Sugar	17.6
Beverages	42.5
Readymade	10.0
Cereals	86.1
Oil	56.3
Tea	42.5
Baked	55.9
Misc	55.9
Fuel	72.7
% Change in Real Returns	
Skilled	-9.5
Unskilled Farm labour	-2.2
Unskilled Industry	-3.0
Unskilled services	-5.6
Self employment	-11.0

Table 3 HISTSIM: Historical Simulation

Variables	Actual Change (%)
FGT(0)*	39.6
FGT(1)	26.8
FGT(2)	19.4
Nutrition Intake (Overall)	-9.3
Urban	-9.6
Rural	-8.7

* FGT (0) Headcount Ratio (proportion poor), FGT(1) average normalized poverty gap, FGT(2) average squared normalized poverty gap. GE(1) Theil index, GE(0) Mean Log Deviation, GE(-1) Entropy index, GE(2) Half of Coefficient of Variation Squared.

Table 4 Percentage change in macroeconomic variables

Variables	SAVSIM*
Real Investment	-1.2
Government Revenue	0.9
Tariff	0.4
Direct Tax	-0.8
Indirect Tax	1.7
Wages	
Farm Labour	3.6
Unskilled	0.0
Skilled	-2.8
Self employment	0.2
Land Returns	3.9
Exports	
Wheat	0.0
Rice	0.0
Other major crops	1.7
Cotton yarn	0.8
Textile	5.0
Chemicals	1.1
Imports	
Wheat	0.0
Other major crops	1.6
Chemicals	-0.6
Petroleum	-0.9
Private services	-5.8

*SAVSIM: 25 percent decline in foreign savings (devaluation).

Table 5 Percentage change in consumer price index

Commodity Groups	SAVSIM*
Wheat irrigated	2.3
Wheat non_irrigated	2.3
Paddy IRRI	4.5
Paddy basmati	4.5
Cotton	5.2
Sugarcane	2.9
Other major crops	2.6
Fruits_ vegetables	1.7
Livestock	0.5
Poultry	-0.2
Forestry	2.4
Fishing Industry	1.3
Mining	2.2
Vegetable oil	1.5
Wheat milling	0.9
Rice milling IRRI	1.6
Rice milling Basmati	1.5
Sugar	0.4
Other food	1.5
Cotton lint_yarn	2.7
Textiles	0.9
Leather	-0.4
Wood products	1.2
Chemicals	2.1
Cement_bricks	-0.7
Petroleum refining	1.9
Other manufacturing	2.1
Energy	0.1
Construction	-0.3
Commerce	-0.3
Transport	0.2
Housing	-2.6
Private services	-0.4
Public services	-1.7

*SAVSIM: 25 percent decline in foreign savings (devaluation).

Table 6 Percentage change in poverty

	SAVSIM*
FGT 1**	4.0
FGT 2	1.5
FGT 3	0.9

*SAVSIM: 25 percent decline in foreign savings (devaluation).

** FGT (0) Headcount Ratio (proportion poor), FGT(1) average normalized poverty gap, FGT(2) average squared normalized poverty gap.

Table 7 Percentage change in food consumption (quantity)

Food Groups	SAVSIM*
Milk products	0.2
Meat & fish	-0.5
Fruits	-1.6
Vegetables	-1.6
Sugar products	-0.4
Beverages	-1.5
Cereals	1.3
Pulses	1.3
Oil & fats	-1.4
Tea, coffee, energizer	-1.5
Baked products	-1.5
Readymade / misc. food	-1.5
Tobacco products	-1.5
Total	-1.2

*SAVSIM: 25 percent decline in foreign savings (devaluation)

Table 8 Percentage change in per capita food consumption (quantity) by income quartiles

Quartiles	SIMSAV*
Quartile 1	-1.4
Quartile 2	-1.1
Quartile 3	-1.3
Quartile 4	-0.9

*SIMSAV: 25 percent decline in foreign savings (devaluation).

Table 9 Cut in Public Sector Development Programme

Expenditure Categories	% Change
Health	-26.41
Education	-33.62
Higher Education Commission	-30.00
Social Welfare & Special Education	-30.52
Environment	-49.33
Women Development	-66.23
Population Welfare	-30.48
Youth Affairs	-34.51

Table 10 Impact of Decline in Pro-poor Expenditures under the Public Sector Development Programme

GDP	-3.4
Investment	-3.1
Food imports	-6.0
Household income	-4.5
Unskilled wage	-5.2
Skilled wage	-4.7
Poverty headcount	2.9
Infant Mortality	3.8 (72.9)

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